

IN THE CLAIMS:

Please amend Claim 19 as follows.

Claims 1-17 (Cancelled)

18. (Previously presented) A kinematic device for supporting and programmably moving a terminal element in a machine or an instrument, said device comprising a fixed base defining a reference plane, a support and drive structure arranged for moving said terminal element at will within a predetermined workspace, said structure comprising at least two carriages guided on said base for moving with only one degree of freedom defining an x-axis of said workspace, at least two rigid legs of definite length, a platform bearing said terminal element, a support and drive joint arrangement connecting each of the carriages to one end of one of the legs and the other end of the legs to the platform, and an auxiliary structure for imparting to the terminal element a pivoting movement about a pivot axis belonging to the platform that displaces the pivot axis parallel to its previous position, with y orientation perpendicular to said x-axis, comprising an auxiliary carriage guided on said base for moving with only one degree of freedom, an auxiliary rigid pivot bar of fixed length, a joint connecting one end of the pivot bar to the auxiliary carriage, and a transmission structure between the other end of the pivot bar and the platform, with a transmission joint on said transmission structure, for transmitting to the terminal element a resultant force in response to a displacement of said auxiliary carriage, the arrangement of said transmission structure and the location of said transmission joint with respect to the platform being such that the direction of the resultant force at the transmission joint remains close to a perpendicular to the line joining the transmission joint to the pivot axis for all positions of the terminal element within the workspace, whereby said

terminal element is subjected to a usable torque throughout the workspace, regardless of the position of the terminal element within said workspace.

19. (Currently amended) ~~A kinematic device as claimed in claim 18~~A kinematic device for supporting and programmably moving a terminal element in a machine or an instrument, said device comprising a fixed base defining a reference plane, a support and drive structure arranged for moving said terminal element at will within a predetermined workspace, said structure comprising at least two carriages guided on said base for moving with only one degree of freedom defining an x-axis of said workspace, at least two rigid legs of definite length, a platform bearing said terminal element, a support and drive joint arrangement connecting each of the carriages to one end of one of the legs and the other end of the legs to the platform, and an auxiliary structure for imparting to the terminal element a pivoting movement about a pivot axis belonging to the platform that displaces the pivot axis parallel to its previous position, with y orientation perpendicular to said x-axis, comprising an auxiliary carriage guided on said base for moving with only one degree of freedom, an auxiliary rigid pivot bar of fixed length, a joint connecting one end of the pivot bar to the auxiliary carriage, and a transmission structure between the other end of the pivot bar and the platform, with a transmission joint on said transmission structure, for transmitting to the terminal element a resultant force in response to a displacement of said auxiliary carriage, the arrangement of said transmission structure and the location of said transmission joint with respect to the platform being such that the direction of the resultant force at the transmission joint remains close to a perpendicular to the line joining the transmission joint to the pivot axis for all positions of the terminal element within the workspace, whereby said terminal element is subjected to a usable torque throughout the workspace, regardless of the position of the terminal element within said workspace, wherein in said support

and drive structure said at least two carriages consist of two support slides and of a further side slide, said slides moving on guiding means integral with said base and having a same orientation which defines said x-axis of said workspace, wherein said at least two legs consist of two pairs of parallel rigid bars of definite length, each pair joining one of the support slides to the platform and of a further side bar extending between the side slide and the transmission structure, and wherein said support and drive joint arrangement comprises eight joints, four of which connect the pairs of parallel support bars to the support slides, the other four joints connecting the pairs of bars to the platform and having locations on the platform defining two parallel lines with said y orientation in the workspace, the said pivot axis being determined by the instantaneous intersection between two planes formed respectively by the axes of the said pairs of support bars.

20. (Cancelled)

21. (Previously presented) A kinematic device for supporting and programmably moving a terminal element in a machine or an instrument, said device comprising a fixed base defining a reference plane, a support and drive structure arranged for moving said terminal element at will within a predetermined workspace, said structure comprising at least two carriages guided on said base for moving with only one degree of freedom, at least two rigid legs of definite length, a platform bearing said terminal element, a support and drive joint arrangement connecting each of the carriages to one end of one of the legs and the other end of the legs to the platform, and an auxiliary structure for imparting to the terminal element a pivoting movement about a pivot axis belonging to the platform that displaces the pivot axis parallel to its previous position, comprising an auxiliary carriage guided on said base for moving with only one degree of freedom, an auxiliary rigid pivot bar of fixed length, a joint connecting one end of the pivot bar to the auxiliary carriage, and a transmission structure between the other

end of the pivot bar and the platform, with a transmission joint on said transmission structure, for transmitting to the terminal element a resultant force in response to a displacement of said auxiliary carriage, the arrangement of said transmission structure and the location of said transmission joint with respect to the platform being such that the the direction of the resultant force at the transmission joint remains close to a perpendicular to the line joining the transmission joint to the pivot axis for all positions of the terminal element within the workspace, wherein in said support and drive structure said at least two carriages consist of two support slides and of a further side slide, said slides moving on guiding means integral with said base and having a same orientation which defines an x-axis of said workspace, wherein said at least two legs consist of two pairs of parallel rigid bars of definite length, each pair joining one of the support slides to the platform and of a further side bar extending between the side slide and the transmission structure, and wherein said support and drive joint arrangement comprises eight joints, four of which connect the pairs of parallel support bars to the support slides, the other four joints connecting the pairs of bars to the platform and having locations on the platform defining two parallel lines with an y orientation in the workspace, the said pivot axis being determined by the instantaneous intersection between two planes formed respectively by the axes of the said pairs of support bars, and wherein said platform and said terminal element are secured together to form a single rigid body and wherein the transmission structure comprises a pivot plate hinged to said body through a pair of coaxial joints having the said y orientation and forming the said transmission joint, a control bar connected at one end through a joint to one of the support slides, and at the other end to the pivot plate, and joints connecting the other ends of the pivot bar and of the side bar respectively to the pivot plate.

22. (Cancelled)

23. (Cancelled)

24. (Cancelled)